

ARNAV GUPTA

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EDUCATION

Georgia Institute of Technology | Atlanta, GA

December 2026

Bachelor of Science in Computer Engineering

- **Relevant Coursework:** Objects and Design, Digital System Design, Data Structures & Algorithms, Discrete Mathematics, OOP

Mass Academy of Math and Science @WPI | Worcester, MA

May 2024

Dual Enrollment @Worcester Polytechnic Institute, GPA: 4.0

SKILLS

Programming: Java, Python, C, C#, JavaScript, R, Dart, HTML/CSS, LaTeX

Developer Tools: VS Code, PyCharm, Eclipse, Android Studio, Arduino, SolidWorks, Jupyter Notebook, COMSOL

Tech Stack: Django, Flask, React, LLM, Gemini API, HuggingFace, Pinecone, OpenCV, GCP, Firestore, MongoDB, Flutter, Firecrawl, GitHub, TensorFlow, PostgreSQL

Hardware: Raspberry Pi, ESP8266 WiFi Module, Arduino

EXPERIENCE

Startup Exchange

September 2024 – Present

Operations Executive

Atlanta, GA

- Lead Board Meetings, develop and enforce standard procedures, and manage information flow and documentation.

MemoirAI

September 2024 – Present

Cloud & Machine Learning Engineer

Atlanta, GA

- Designed and implemented cloud architecture using **GCP** and **MongoDB** to handle media upload and storage for EXIF metadata and embedding vectors.
- Developed **OpenAI CLIP** multimodal LLM to enable natural language tagging and retrieval, improving media search accuracy by 30% and reducing retrieval time by 40%.

UMass Chan Medical School

July 2023 – July 2024

Research Assistant, Machine Learning Intern

Worcester, MA

- Collaborated with Dr. Andres Colubri PhD at UMass Chan in Bioinformatics and Integrative Biology Department.
- Built a solution to better disperse **medical resources for 148k malnourished households** by developing a Neural Network model to help predict the Composite Index of Anthropometric Failure (CIAF) with 86% accuracy.
- Addressed missing data across 100+ hygiene/nutrition attributes and **enhanced model by 40% using MICE** (Multivariate Imputation by Chained Equations) techniques.

PROJECTS

Coastlens | Full Stack

October 2024

- Developed a multimodal AI application to assess coastal property risk by integrating ten-year long Google Earth satellite telemetry, NOAA hurricane data, and **2000+ web-scraped articles from Firecrawl API**, resulting in real-time insights and recommendations for property investment.
- Optimized display of most relevant news articles by generating embedding vectors with HuggingFace model and storing vectors in Pinecone RAG database.
- Designed user-friendly lightweight application using React and Flask.

Atlanta Food Finder | Full Stack Developer

August 2024 – Present

- Enabled users to search and find over **1,000+ restaurants in Atlanta** using a Django-based web application that leverages the Google Maps API and Django QuerySet.
- Users can access users accounts, restaurant information, reviews, and favorites in the application built on PostgreSQL database.
- Implemented asynchronous requests in JavaScript to handle high-traffic user interactions, including filtering, maps, and reviews, **reducing response times by 40%** and improving user experience.

Assistive Technology Project: Medication Pillbox (SNAP) | Patent Pending

March 2023 – June 2024

- Designed an accessible mobile app-connected pill care box to measure and improve medication adherence, **achieving a 20% increase in adherence among elderly patients**.
- Invited to present the project to the CVS Health VP and executive team, with potential to impact 100,000+ users across healthcare facilities.
- Used Google Cloud Functions (JavaScript) to send alerts based on magnetic reed switch readings on custom CAD pillbox.
- Developed a flutter mobile application (dart) connected through a 12-E Wi-Fi microcontroller (C++). Used Cloud Firestore for data collection and authorization.